**WHAT IS CLAIMED IS:**

1. An annular shim member having first and second opposing surfaces and a plurality of openings formed therethrough,

wherein the member is made from a metallic material and at least partly defines a plurality of radially extending gas flow paths.

2. The member according to claim 1, wherein the metallic material is a bare metallic material.

3. The member according to claim 1, wherein the metallic material is a wire mesh.

4. The member according to claim 3, wherein the metallic material is a refractory material.

5. The member according to claim 3, wherein the metallic member comprises one or more of stainless steel, inconel alloy, titanium, molybdenum, tantalum, and tungsten.

6. The member according to claim 3, wherein the wire mesh has an open mesh area of about 20% to about 80%.

7. The member according to claim 3, wherein the member has an effective thickness of about 1 mm to about 6 mm.

8. The member according to claim 3, wherein the wire mesh includes a crimped weave mesh.

9. The member according to claim 3, wherein the member has an effective thickness of about twice the diameter of the wire constituting the wire mesh.

10. The member according to claim 4, wherein the refractory material can withstand temperatures of up to about 1400°C.

11. A method of preparing a plurality of annular carbon fiber preforms for a chemical vapor infiltration process, comprising:

stacking the plurality of annular carbon fiber preforms, wherein an annular shim member made from a metallic material is provided between each respective pair of the annular carbon fiber preforms, the stacked plurality of annular carbon fiber preforms and annular shim members collectively defining an interior space within the stack,

wherein each annular shim member has first and second opposing surfaces and at least partly defines a plurality of radially extending gas flow paths for communicating the interior space of the stack with an exterior of the stack.

12. The method according to claim 11, wherein the metallic material is a bare metallic material.

13. The method according to claim 11, wherein the metallic material is a wire mesh.

14. The method according to claim 13, wherein the metallic material is a refractory material.

15. The method according to claim 13, wherein the metallic member comprises one or more of stainless steel, inconel alloy, titanium, molybdenum, tantalum, and tungsten.

16. The method according to claim 13, wherein the wire mesh has an open mesh area of about 20% to about 80%.

17. The method according to claim 13, wherein the member has an effective thickness of about 1 mm to about 6 mm.

18. The method according to claim 13, wherein the wire mesh includes a crimped weave mesh.

19. The method according to claim 13, wherein the member has an effective thickness of about twice the diameter of the wire constituting the wire mesh.

20. The method according to claim 14, wherein the refractory material can withstand temperatures of up to about 1400°C.

21. The method according to claim 11, wherein each annular shim has an outer diameter smaller than an outer diameter of the annular carbon fiber preforms and an inner diameter larger than an inner diameter of the annular carbon fiber preforms.

22. The method according to claim 21, wherein the outer and inner diameters of each annular shim are about 5 mm smaller than and about 5 mm greater than, respectively, the outer and inner diameters of the annular carbon fiber preforms.